Economics 103, Federal Reserve Module Key

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Bates College

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To complete this assignment, you should:

1. Watch the recorded lecture on the Federal Reserve. This will provide you with much of the necessary background.

2. Listen to Fed Chairman Jerome Powell's conference call from Sunday, March 15 when he announced an unscheduled 1% drop in the Federal Funds Rate.

3. Read this article from CNN on why the Fed's rate cut may not do much.

4. Read this pessimistic take on the macroeconomic outlook from *The Atlantic*.

The lecture for #1 is available on the course's Lyceum page.

Instructions: Answer all parts of all questions. You are expected to independently craft your answers. Answers which incorporate current macroeconomic data are especially encouraged. The assignment is due by 11:59 PM on Sunday, March 29.

1. What interest rate did the Federal Open Market Committee lower to 0-0.25%? Do many economic decisions directly depend on this interest rate?

Sample Answer: The FOMC lowered the target Federal Funds Rate and instructed the New York Fed's trading desk to implement this target. The Federal Funds Rate is an overnight rate at which banks lend each other reserves. Few economic decisions depend directly on it. The FOMC hopes, however, that a lower Fed Funds rate passes through to other interest rates.

2. Which components of GDP are most likely to increase in response to the FOMC's decision to lower interest rates?

Sample Answer: Mostly investment and consumption. Lower interest rates make it cheaper to borrow. The Fed hopes to stimulate the purchase of goods which are usually financed. This includes capital goods and housing. Both count as investment. But it also includes durable consumption goods, such as cars, as well.

3. True or False? Lower interest rates will provide major boost to both aggregate demand and aggregate supply. Explain how each is affected by monetary policy?

Sample Answer: Expansionary monetary policy attempts to shift the aggregate demand curve to the right (*e.g.* by stimulating C and I in #2). The Fed hopes that its policy will represent a *major* boost but it is not obvious whether this will occur. The measures taken to inhibit the spread of Covid-19 may prevent households and firms from significantly changing their behavior in response to lower interest rates. The impact on AD may thus be minor.

In our model of AS/AD, monetary policy has no impact on aggregate supply.

4. How concerned should the Fed be about causing inflation to rise well above 2% because of such low interest rates?

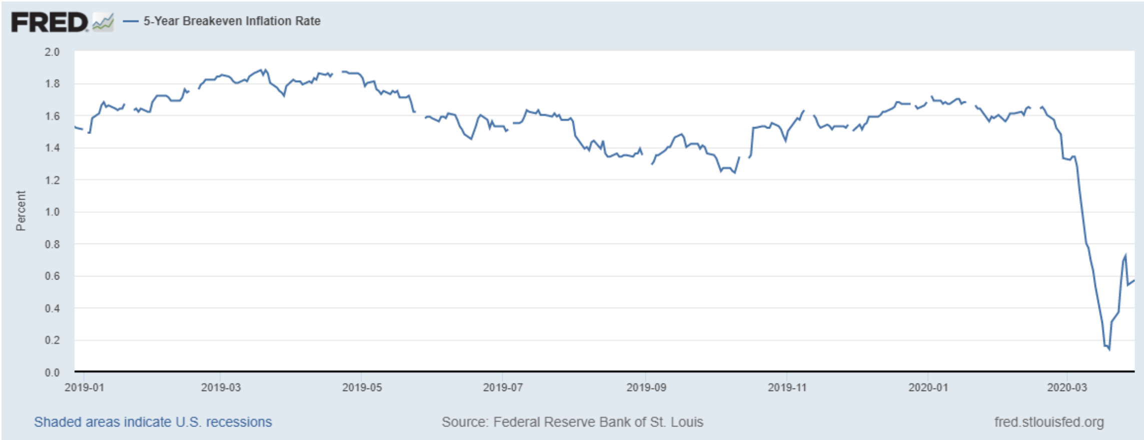
The current crisis represents shocks to both aggregate demand and aggregate supply. If the aggregate supply shock is bad enough, it could lead to high inflation. if the demand shock is bad enough, however, then inflation should fall below the Fed's 2% target.

Sample Answer: Currently agents expect upcoming inflation to be well below 2%. The following graph shows break-even inflation, a measure of expected inflation from the bond market.

Inflation was expected to be below 2% before the current crisis and has these expectations have fallen dramatically since it began. As a result, the Fed is unconcerned about excess inflation in the near-term.

5. The most recent data on GDP show that growth was around 2% in 4Q2019 (and at or above potential output), and that core inflation was around 1.6%. Given these conditions, are interest rates lower than suggested by rules like that of Taylor (1993)?

Figure 1: Break-even Inflation



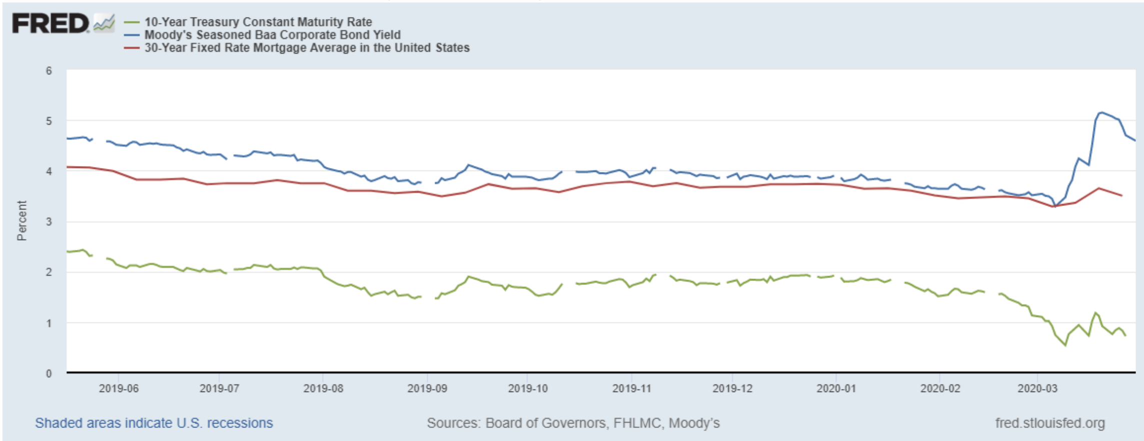
Sample Answer: The most recent data we have for GDP and inflation show GDP at or near potential, and inflation around 1.6% (the exact rate depends on which price index you use). The Taylor Rule states that the Fed historically ha started at the neutral rate (around 2.5%) and lowered rates by 1.5% for each 1% that inflation is below 2%. This yields an estimated Federal Funds Rate about $2.5\% - 1.5 * (2 - 1.6)\% = 1.9\%$, which is much higher than the current rate.

This does not mean that the Fed is making a mistake for a few reasons. First, the Taylor Rule is an approximation of what the Fed usually does, which may or may not be best given current circumstances. Second, these data do not reflect the expected declines in output and inflation that will start to appear once the March data become available.

6. Looking at data since the Fed's action, have long-term interest rates (*e.g* mortgage rates, long-term Treasuries, corporate interest rates) changed since the Fed's actions?

Sample Answer: It depends on which long-term rate that you are looking at. Long-term Treasury yields (green) have fallen. These are considered very safe and have fallen partly because people expect teh Fed to keep rates low for a very long time. Corporate bond yields (blue) have, however, risen. This is riskier debt and the interest rates have risen because the economic crisis has made this debt much riskier. Mortgage interest rates (red) are another form of risky debt. These have been relatively flat.

Figure 2: Long-Term Interest Rates



7. How is Quantitative Easing different from simply lowering interest rates?

Sample Answer: Quantitative easing refers to large scale asset purchases even after the target interest rate (the Fed Funds rate in the U.S.) hits its lower bound. Quantitative easing can still lower long-term interest rates, however, if it entails buying longer-term debt.

8. How might the Fed's new round of Quantitative Easing help increase employment (or alternatively, prevent an even bigger increase in unemployment)?

Sample Answer: As discussed in #2 and #8, lower long-term interest rates might encourage investment and consumption, boosting economic activity and employment. Given the current circumstances, this effect is likely to be quite small.

You may also have read about other measures that the Fed has taken to provide liquidity to different types of financial markets. These are distinct from quantitative easing and are designed to ensure that financial institutions can convert their assets into liquid assets in order to prevent unnecessary bankruptcies.

9. True or False? Unemployment claims rose after the Fed's actions. The Fed's actions were thus a mistake which made the macroeconomic situation worse.

Sample Answer: False. Regardless of whether the Fed's actions were wise, it is absurd to attribute rising unemployment to the rate cut. The relevant comparison is the actual economy versus a hypothetical economy where the Fed took less drastic measures.

10. Provide a 1-2 paragraph summary of why the Fed's actions were or were not the right policy decision.

This i open ended question and any answer that showed an understanding of the tradeoffs facing the Fed received full credit. Few people said that it was a mistake, there was more debate over whether it will do much good. I will conclude with a picture of an otter dunking a basketball.

Figure 3: Is Anyone Still Reading?